

**Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services**

STATEMENT OF BASIS

**ConocoPhillips Company
Lake Charles Refinery – Excel Paralubes
Westlake, Calcasieu Parish, Louisiana
Agency Interest Number: 2538
Activity Number: PER20060043
Proposed Permit Number: 2627-V3**

I. APPLICANT

Company:

ConocoPhillips Company
2200 Old Spanish Trail
Westlake, Louisiana 70669

Facility:

Lake Charles Refinery – Excel Paralubes
2200 Old Spanish Trail
Westlake, Calcasieu Parish, Louisiana
Approximate UTM coordinates are 473.405 kilometers East and 3,345.357 kilometers North in Zone 15

II. FACILITY AND CURRENT PERMIT STATUS

Lake Charles Refinery (LCR) processes crude oils into chemical and petrochemical feedstock, gasoline, heating oil, residual fuels, petroleum coke, lube oils, and other miscellaneous products. To refine the crude, it utilizes crude-topping units, crude vacuum units, a fluid catalytic cracking unit, an alkylation unit, a polymerization unit, catalytic reformers, desulfurization units, petroleum coking units, a calcining unit, sulfur recovery units, a hydrodewaxer unit, a hydrofinisher unit and associated infrastructure including plant utilities. Lake Charles Refinery is organized into Area A, Area B, Area C, Area D, and Excel Paralubes. ConocoPhillips Company presently operates this refinery under the following permits:

PSD-LA-390	granted 08/10/1981
PSD-LA-419	granted 10/08/1981
PSD-LA-533 (M-3)	granted 07/02/1993
PSD-LA-584 (M-4)	granted 05/19/2006
PSD-LA-699	granted 05/28/2004

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2623-V3	granted 08/24/2005 (for Area A)
2624-V5	granted 10/02/2005 (for Area B)
2625-V4	granted 08/24/2005 (for Area C)
2626-V3	granted 08/24/2005 (for Area D)
2627-V2	granted 08/24/2005 (for Excel Paralubes)

In addition, the Lake Charles Refinery is one of four refineries included in the Consent Decree lodged December 20, 2001 (Civil Action Number H-01-4430 filed in the United States District Court for the Southern District of Texas).

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application and Emission Inventory Questionnaire were submitted by ConocoPhillips Company on November 9, 2006 requesting a Part 70 operating permit modification. Additional information dated November 30, 2006 and March 5, 2007 was also submitted.

Project

No physical modification project is proposed with this modification. The following updates to the permit are proposed:

- ConocoPhillips has received approval from the EPA for an alternative compliance option for the West Flare FL-76002 for NSPS Subpart J requirements. The approval states that the flare may use option (a) under Paragraph 156 of the Consent Decree as its method of demonstrating compliance with NSPS Subpart J requirements. This option limits the total SO₂ emissions from this flare to 500 lb/day during a 24-hour period. A specific requirement is added to the permit for this option.
- Correct the normal and maximum operating rates for the West Flare FL-76002. The previously permitted values were not corrected. This correction does not reflect a change in the operation of the flare and there is no change in emission rates for this flare.
- Create a heater emission cap, Excel Heater Cap, for all of the process heaters to provide operational flexibility. The total proposed fired duty for the cap will be 232.2 MM BTU/h on a Higher Heater Value (HHV) basis, which is the same as the combined fired duties previously permitted for all heaters under the cap.

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- Change CO emissions factors from 0.02 lb/MM BTU (average/maximum) to 0.04 lb/MM BTU on average, with a maximum rate of 0.06 lb/MM BTU. These changes correspond to the emission limits for heaters by the Consent Decree, and create consistency in the emission calculation methodologies across the facility.
- Update emission rates for the LOHC Loading operations.
- Update emission rates and throughput for LOHC Truck Loading operations.
- Split the current Excel Lube Oil Tank Cap into two caps, one for lube oil feedstocks and products, and one for diesel and heavier products.
- Update storage tank emissions for T-71001, T-66001, and T-66003 using the most recent throughput and vapor pressure data and the EPA TANKS 4.09 software.
- Update storage tank emissions for D-66011.
- Change Tanks T-76012, T-66002, and T-66004 from emission points to insignificant activity tanks.
- Remove tanks D-76020, T-76003, and T-76004 from the permit.
- Update emission estimations for the No. 4/No. 5 SRU.
- Update the LOHC Sulfur Loading (Rail/Truck) emissions based on recent engineering calculations.
- Update regulatory review for all sources.

Proposed Permit

Permit 2627-V3 will be permit modification of Part 70 operating permit 2627-V2 for the Lake Charles Refinery – Excel Paralubes.

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Permitted Air Emissions

Estimated emissions from the Lake Charles Refinery – Excel Paralubes in tons per year are as follows:

Pollutant	Before	After	Change
PM ₁₀	27.60	27.89	+ 0.29
SO ₂	287.02	317.22	+ 30.20
NO _x	141.23	161.37	+ 20.14
CO	108.18	192.20	+ 84.02
VOC	148.18	145.74	- 2.44

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

Streamlined Equipment Leak Monitoring Program

It is required that the Lake Charles Refinery comply with a streamlined equipment leak monitoring program. Compliance with the streamlined program shall serve to comply with each of the fugitive emission monitoring programs being streamlined.

For the Lake Charles Refinery, fugitive emissions are subject to the requirements of 40 CFR 61 Subparts F, J, and V, 40 CFR 60 Subpart GGG, LAC 33:III.2122, and LAC 33:III.5109. (40 CFR 63, Subpart CC is not included in this program.) Among these regulations, Louisiana MACT Determination for Refineries is the overall most stringent program. Therefore, fugitive emissions shall be monitored as required by this program (Louisiana MACT Determination for Refineries).

Unit or Plant Site	Program Being Streamlined	Stream Applicability	Overall Most Stringent Program
Lake Charles Refinery	LAC 33:III.5109 – Louisiana MACT Determination for Refineries	≥5% VOTAP	Louisiana MACT Determination for Refineries
	40 CFR 61 Subparts F, J, and V	≥5% VOHAP	
	40 CFR 60 Subpart GGG	≥5% VOHAP	
	LAC 33:III.2122 – Louisiana Fugitive Emission Control for Specified Parishes	≥5% VOC	

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New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C (“Prevention of Significant Deterioration of Air Quality”) and D (“Nonattainment New Source Review”).

Nitrogen Oxides (NO_x) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH₄), Ethane (C₂H₆), Carbon Disulfide (CS₂)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥10 tons per year of any toxic air pollutant; ≥25 tons of total toxic air pollutants; and ≥100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM₁₀ – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO₂) – An oxide of sulfur.

Sulfuric Acid (H₂SO₄) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.

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MACT Requirements

The facility is subject to Louisiana MACT Determination for Refineries and 40 CFR Part 63, Subparts CC, UUU, DDDDD, and GGGGG. Detailed requirements are listed in the Specific Requirements Section of the permit.

Air Quality Analysis

Since emission changes are not significant, air quality analysis is not required.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

No permit shield is requested.

VI. PERIODIC MONITORING

No additional periodic monitoring is required.

VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H₂S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.